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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/500,007	09/19/2005	Choong-Hyun Jung	4439-004	2773
22429	7590	05/11/2006	EXAMINER	
LOWE HAUPTMAN BERNER, LLP 1700 DIAGONAL ROAD SUITE 300 ALEXANDRIA, VA 22314			SOROUSH, LAYLA	
			ART UNIT	PAPER NUMBER
			1617	

DATE MAILED: 05/11/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/500,007	<b>Applicant(s)</b> JUNG, CHOONG-HYUN	
	<b>Examiner</b> Layla Soroush	<b>Art Unit</b> 1617	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 23 June 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

The Office Action is in response to the Preliminary Amendment filed June 23, 2004.

Claims 1-9 are pending.

#### ***Priority***

The effective filing date December 23, 2002 has been acknowledged.

Foreign priority claimed December 24, 2001.

#### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 9 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

It is unclear whether the dentifrice is in liquid form, powder form, cream form, solid form or a mixture of the said dentifrice forms. Therefore, claim 9 is rendered indefinite.

#### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

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Claims 1, 2, 3, and 9 are rejected under 35 U.S.C. 102(e) as being anticipated by Karageozian (US Pat. No. 6,488,965, filed Nov. 27, 2000, Date of Patent: Dec. 3, 2002).

Karageozian discloses a chlorite/peroxide system in a gel or paste (column 8, lines 8-15). The prior art exemplifies in Formula 2, a stable chlorite/peroxide composition comprising sodium chlorite and hydrogen peroxide (column 8, lines 28-34), as recited in claims 1, 2, and 3. The reference clearly indicates the formulation in the form of a gel or paste. Karageozian teaches the gel or paste formulation "delays or control the release of the chlorite/hydrogen peroxide."

Additionally, the reference discloses various forms of the chlorite/peroxide preparation, including liquid solutions, gels, ointments, creams, sprays (column 7, lines 40-46), as recited in claim 9.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 4, 5, 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Karageozian (US Pat. No. 6,488,965) in view of Muhlemann (US, Pat. No. 4,199,563).

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Karageozian teaches a chlorite/peroxide system in the form of a paste or gel. Also, Karageozian teaches the amount of peroxide, specifically, hydrogen peroxide, used in the chlorite/peroxide system is about 0.001-0.05 percent of the formulation and the metal chlorite is about 0.001% to about 0.01% by weight of a metal chlorite (column 6, lines 30-31).

Karageozian fails to expressively teach sodium hypochlorite as a metal chlorite in the system.

However, Muhlemann teaches a composition comprising hydrogen peroxide and sodium hypochlorite used to clean teeth (column 4, lines 64-66).

Thus, it would have been obvious to one of ordinary skill in the art to elect sodium hypochlorite as the metal chlorite component in the chlorite/peroxide system of Karageozian. Also, it would have been obvious to employ similar percentage by weight range of the components taught by Karageozian into the dentifrice composition. The motivation to combine the two teachings is because Karageozian teaches the genus of metal chlorites (in the said amounts) and Muhlemann teaches the specific species, sodium hypochlorite, in a tooth cleansing composition. Therefore, the skilled artisan would have reasonable expectation of successfully producing an effective chlorite/peroxide composition with the resulting teeth cleansing properties by incorporating the sodium hypochlorite component into the chlorite/peroxide system of Karageozian.

With regards to claim 7, the reference does not specifically teach the ratio of the dentifrice composition. However, it would have been obvious to one of ordinary skill in

the art at the time the invention was made to optimize the ratio of the composition by routine experimentation (see MPEP 2144.05 11). The motivation to optimize the ratio of the final formulation is because there would have been reasonable expectation of success in achieving the safest clinical outcome.

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Karageozian (US Pat. No. 6,488,965) in view of Muhlemann (US, Pat. No. 4,199,563), and in further view of Ng et al. (US Pat. No. 4788052 A).

Claims 4-7 are rejected by Karageozian and Muhlemann as discussed above.

Karageozian and Muhlemann do not teach the composition to be filled into a dual container with a partition or separate containers, as recited in claim 8.

Ng et al. teaches a stable aqueous hydrogen peroxide gel dentifrice. The reference teaches it is "known that most peroxy compounds such as hydrogen peroxide in oral compositions tend to be unstable in storage due to incompatibility with and/or interaction with other common ingredients in the composition, and lose the capacity to release active or nascent oxygen over relatively short periods of time. This adversely affects both the chemical stability of the composition as well as the cosmetic stability of the final product, particularly in the gel product containing hydrogen peroxide (column 2, lines 3-12)." Through incorporation of a reference, Ng et al. teaches "a two-part container for dispensing an oral mouthwash containing the povidone-iodine complex solution separate from the hydrogen peroxide solution and mixing prior to dispensing (column 2, lines 64-68)."

It would have been obvious to one of ordinary skill in the art to incorporate the teachings of Ng et al. into the claimed invention and separate the composition into a dual container with a partition or separate container. The motivation to separate the composition is because hydrogen peroxide is known to interact with other common ingredients in dentifrice compositions and therefore, the skilled artisan would have had reasonable expectation of successfully producing an effective chlorite/peroxide composition by separating the hydrogen peroxide component into a dual component container.

### ***Conclusion***

No claims allowed.

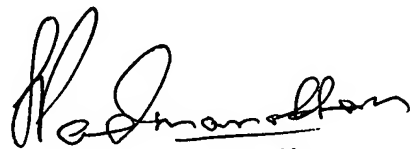
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Layla Soroush whose telephone number is (571)272-5008. The examiner can normally be reached on Monday through Friday from 8:30 a.m. to 5:00 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sreenivasan Padmanabhan, can be reached on (571) 272-0629. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For

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more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



**SREENI PADMANABHAN**  
**SUPERVISORY PATENT EXAMINER**